

### **REMARKS/ARGUMENTS**

Claims 32-62 are pending in the present application. Claims 42 and 47 were amended in this response. No new matter has been introduced as a result of the amendments. Support for the amendments may be found, for example, in page 2 of the amended specification, lines 6-17, page 2, line 30- page 3, line 7, and page 7, line 7 – page 8, line 9. Favorable reconsideration is earnestly requested.

Claims 32-62 were rejected under 35 U.S.C. §102(e) as being anticipated by Cao et al. (US Patent 6,130,766). Applicant respectfully traverses this rejection.

Specifically, Cao does not teach or suggest “at least one signal processing module for detecting polarization multiplex interference occurring between the optical signal elements, and for forming at least one control signal based on the detection for controlling the controllable polarizing element.” as recited in amended claim 32, and similarly recited in amended claim 47. The present amendments are submitted to make clear that the optical signal elements are two separate signals having independent informational content.

In contrast, Cao discloses that, for a laser source with narrow bandwidth, there are two polarization modes for a single mode fiber having a group delay between these two eigen-modes, also known as the principal states of polarization (PSP) (col. 1, lines 35-38). When a input polarization is not aligned with one of the PSPs in Cao, the output signal will consist of both polarization modes having a certain amount of group delay between them (differential group delay (DGD)) that causes waveform distortion. In order to compensate for PMD, Cao finds the PSPs at the output so that a polarization splitter can be used to separate the two PSPS (col. 1, lines 38-49; col. 5, lines 2-25). In other words, Cao teaches that the PSP within one signal is tracked to control the axes of a polarization beam splitter (PBS) that is separating the polarization modes (col. 6, lines 30-40) to minimize distortion. Cao does not teach or suggest the detection of polarization multiplex interference among multiple signals. For at least these reasons, Applicant respectfully submits the rejection under 35 U.S.C. §102 is traversed and should be withdrawn.

In light of the above, the Applicant respectfully submit that claims 32-62 of the present application are patentable over the art of record. Applicants respectfully request that a timely Notice of Allowance be issued in this case. If any additional fees are due in connection with this

application as a whole, the Examiner is authorized to deduct such fees from deposit account no. 02-1818. If such a deduction is made, please indicate the attorney docket no. (0112740-533) on the account statement.

Respectfully submitted,

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